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China and India: A Tale of Two Trade Integration Approaches

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Foreword

This paper was presented at an ICRIER Conference on "India and China's Role in International Trade and Finance and Global Economic Governance". This conference, supported to by Konrad-Adenauer-Stiftung (KAS) and the International Monetary Fund (IMF) was held at New Delhi, India from December 6-7, 2007. These papers, specially commissioned for the conference, are being published shortly in a book titled "Emerging Giants: China and India in the World Economy" edited by Professor Barry Eichengreen, Dr. Poonam Gupta and Dr. Rajiv Kumar. We are bringing out a few of these papers as ICRIER Working Papers for their early dissemination to a wider audience.

This paper compares the key features of the trade integration processes and the economic outcomes in China and India. It reveals that while much has already been achieved in both these economies, Chinese reforms, especially with respect to manufacturing trade, have gone further and that this is likely one of the key determinants of better economic performance of China. India has gone a long way in reducing its tariffs on non-agricultural products as well as selected non-tariff barriers but moderate protection still persists which likely adds to the hurdles faced by the Indian manufacturing sector. While India has revealed a comparative advantage in certain segments of its services sector, trade policy still retains some very restrictive features. These need to be addressed urgently if India is to fully exploit its comparative advantage in services.

(Rajiv Kumar)
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August 4, 2008

Abstract

The comparison of the key features of trade integration processes and the economic outcomes in China and India reveals that while much has already been achieved in both these economies, the Chinese reforms, especially with respect to manufacturing trade, have gone further and that this is likely one of the key determinants of better economic performance of China. Still, China's integration process so far remains characterized by a certain duality. On the one hand the opening up of trade and FDI in manufactured goods has spurred the emergence of a largely private sector. On the other hand the high level of public ownership and important regulatory barriers continue to dominate the services sectors. India has gone a long way in reducing its tariffs on non-agricultural products as well as selected non-tariff barriers but moderate protection still persists which likely adds to the hurdles faced by the Indian manufacturing sector. India has revealed a comparative advantage in certain segments of the services sector but its services trade policy is still very restrictive, even as compared to China. More generally the extent of liberalisation achieved so far in India and the outcomes it brought about suggest that the remaining goods and services trade barriers are just but one item on the list of reforms that India needs to tackle in order to promote trade-led expansion of more labour-intensive activities.

Keywords: *China, India, manufacturing, services, trade barriers, trade policy*
JEL Classifications: *F13, F14, F15, F21, F23, F43*

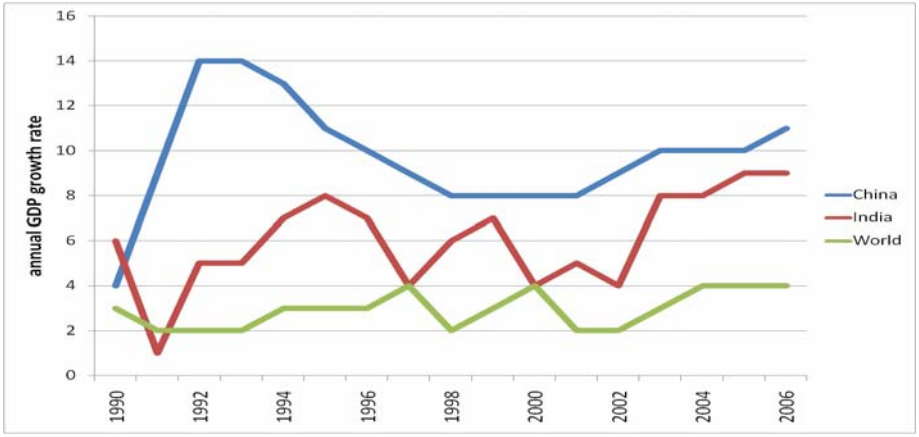
China and India: A Tale of Two Trade Integration Approaches

Przemyslaw Kowalski *

1. Introduction

China and India's GDP growth rates have outperformed world average growth rates and, indeed, those of other lower and middle income countries for the most part of the last 15 years. According to official statistics China has grown at an average rate of close to 10% annually during 1990-2006; a rate at which income more than doubles every seven years. Although regarded as a success, India's performance was less spectacular than China's with an approximate rate of growth of 6% annually though in reality the difference in growth rates between the two countries may be smaller. Heston (2007), for example, points out that, according to recent purchasing power studies, officially reported national growth rates may overstate China's actual growth, which is not so much the case in India.[1] The growth of world economy in the corresponding period amounted to approximately 3% annually (Figure 1).

Figure 1: Annual GDP growth rate 1990-2006



Source: WDI

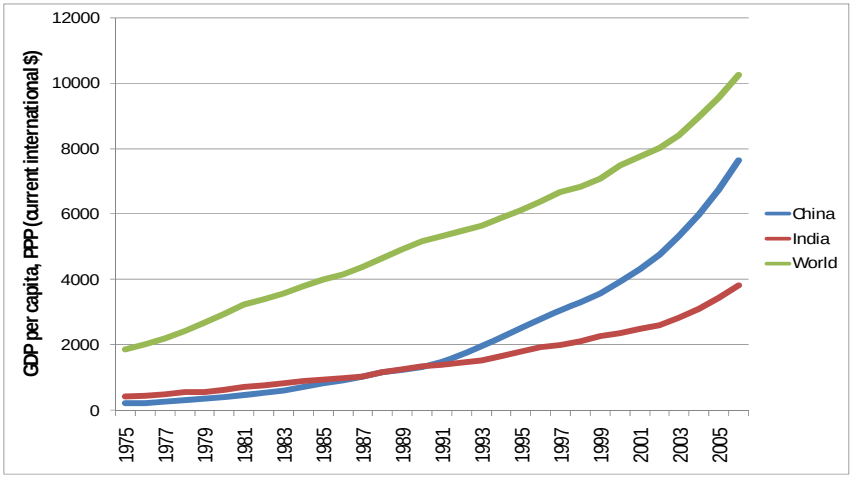
As pointed out by the World Bank (2007), the two countries now account for approximately 37.5% of world population and 6.4% of the value of world output and income at current prices and exchange rates; as their per capita production and consumption approach levels similar to those of today's developed economies, as they are indeed already doing (see Figure 2), major effects on global markets and resources

* The author is an economist at the Organisation for Economic Co-operation and Development and the material presented here draws on work carried out within the OECD Secretariat, in particular on Greene, Dihel, Kowalski and Lippoldt (2006) and Dihel and Kowalski (2008). The views presented are strictly those of the author and do not necessarily represent the views of the OECD or its member countries or co-authors of the two aforementioned reports. Useful comments by Ralph Lattimore, Matthieu Bussiere, participants of the Conference on India and China's Role in International Trade and Finance and Global Economic Governance in New Delhi and excellent statistical assistance by Clarisse Legendre are gratefully acknowledged.

[1] Heston (2007) cites Maddison and Wu (2007) who have estimated lower growth rates than official rates (7.85% p.a. versus 9.6% for total GDP).

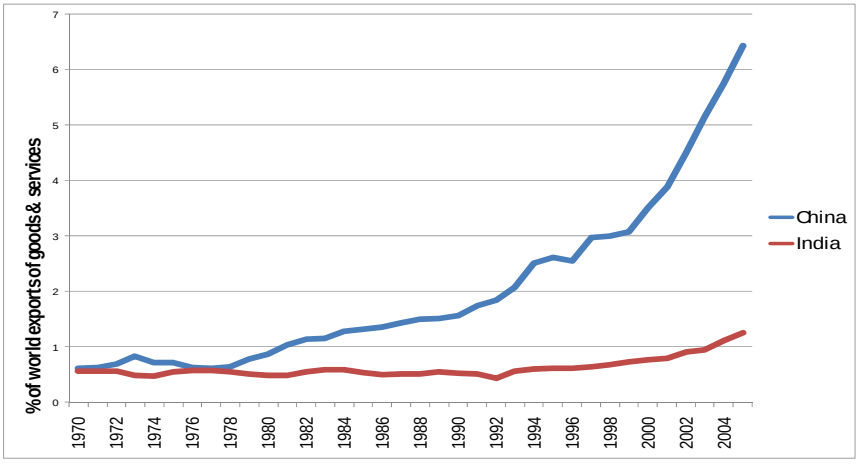
can be expected. Indeed, this has already been happening for some time with the great influence of China's demand and supply on the world markets observed since the beginning of the 1990s. India's overall influence on world markets, despite the several successful stories of individual companies or sectors, has been more limited so far (see Figure 3) but the potential is clearly there (e.g. OECD, 2007a or Lehman Brothers, 2007). In fact, one could argue that because the economic growth is being achieved in India with less intervention by the authorities and within a democratic political system, it may be in some respects more sustainable than the growth achieved in China (see e.g. Huang, 2008).

Figure 2: GDP per capita in China and India 1975-2006



Source: WDI

Figure 3: Shares in world exports



Source: WDI

While China and India are both very populous, both have a history of central planning and inward oriented policies and both are poorer as compared to the OECD area, they are in fact two very different countries with diverging development opportunities and challenges. Some of these broad differences are revealed in Table 1 which compares a

list of selected resource, geographical and economic indicators. Taking a bird's eye view at the two economies India is closer to Europe in terms of geographical distance by some 1500 kilometers (and yet closer if a sea distance is considered) while China is closer to the United States by some 700 kilometers and to Japan by some 3750 kilometers. Culturally, because of the past colonial links with the British Empire and the widespread use of the English language, India is much closer culturally to both the EU and the US, while China can be considered closer to Japan. Both countries are very large in terms of surface and population and are quite diverse geographically and ethnically. China has almost three times as much agricultural land as India does but India's arable land resources are larger than those of China by almost 60%. India's population and labour force are growing much faster than China's, including the skilled segment of the labour force. Despite relatively similar populations, according to the World Development Indicators database China's economy is almost three times bigger than India's (at current prices and exchange rates) and the Chinese GDP per capita in purchasing power parity terms is double that of India. According to the first results of the 2005 UN International Comparison Programme (ICP) of purchasing power parities reported by Heston (2007) China's and India's total outputs in 2005 amounted to respectively 73% and 30% of the US. Corresponding price levels were 35% and 30% of the US level.

Table 1: Selected indicators

	China	India	Germany	Japan	United States	World
Agricultural land (000' sq. km)	5549	1800	170	47	4169	49377
Arable land (hectares, million)	103.4	159.4	11.8	4.4	176.7	NA
Population, total (million)	1,312	1,110	82	128	299	6,518
Birth rate, crude (per1,000 people) in 2005	12	24	8	8	14	20
Death rate, crude (per 1,000 people) in 2005	6	8	10	9	8	9
GDP (current US$, billion) in 2006	2,668	906	2,907	4,340	13,202	48,245
GDP per capita, PPP (current international $) in 2006	7,660	3,827	31,744	32,385	44,155	10,252
GINI index in 2004	47	37	28	NA	41	NA
Goods exports (BoP, current US$ billion) in 2003	438	59	745	449	717	7498
Goods imports (BoP, current US$ billion) in 2003	394	68	600	343	1261	7406
Service exports (BoP, current US$ billion) in 2003	47	26	124	78	299	1921
Service imports (BoP, current US$ billion) in 2003	55	26	173	112	250	1881
Distance from EU (in km)	7971	6420				
Distance from US (in km)	10994	11762				
Distance from Japan (in km)	2098	5848				

Note: Gini coefficients for China and India correspond to 2004, for Germany and United States to 2000.
Source: WDI, CEPII, author's calculation.

These and many other differences, including the scale, scope and timing of already undertaken economic policy reforms, are reflected in the rather distinctive development paths that the two economies have been following as well as in their distinctive trade profiles. While in both China and India the share of agriculture in GDP has been declining[2], its place has been taken primarily by manufacturing in China and by services in India. As a result in 2006 services accounted for 56% of India's GDP compared to 41% in China.[3] This is also reflected in the recent trade developments. India quite clearly has not been able to match China's conquest of the world's goods markets, even though recently more dynamism has been observed in certain segments of the Indian manufacturing sector (Lehman Brothers, 2007). Yet, for some time now, the developments in India's services sector have generated trade flows that are more comparable to those of China in absolute terms and are much higher than in China if we account for the economy size. Evidence is also mounting that the product composition of these two economies' trade is quite different and that, for the moment, the two enormous economies are not competing directly in the world markets (Dimaranan et al., 2007).[4]

The reminder of this paper goes deeper into the trade and trade policy developments in China and India in order to hypothesise about the implications for their own economies and the world economy as a whole. In particular it aims to shed light on the following set of questions:

- What has been the role of international trade in China and India's recent economic growth?
- What has been the role of trade policy in China and India's recent economic growth?
- What is the remaining potential for improving economic outcomes by reforming trade policy?
- What are other policies that could help these countries to further improve their integration with the world markets?

[2] This is notwithstanding the fact that close to 40% and 60% of respectively China and India's population live in the rural areas (check this).

[3] Heston (2007) points out that international price comparisons suggest that in both China and India capital goods for example are relatively expensive as compared to prices of consumption and that capital stocks estimated in local currencies probably overestimate the contribution of fixed capital formation and capital-intensive activities to growth. These discrepancies may also be reflected in sector shares and structural composition of recent growth in both countries, likely overestimating the contribution to output of manufacturing. In fact, differences in relative prices across countries have serious implications for all sorts of international comparisons, including comparisons of trade performance.

[4] This paper deals predominantly with external trade developments and national trade policies of China and India and as such does not go into much detail in discussion of regions. Nevertheless, it must be born in mind that in both China and India economic activity is very unevenly distributed and that there are major differences in product specialisation and incomes in individual regions. Discussion of economic performance across China's regions can be found in OECD (2005) and across India's regions in OECD (2007).

2. Main trade developments

General Trade Tends

China's economic transformation and integration with world markets is one of the most remarkable economic developments of recent decades: China's share in world goods trade has increased from less than 1% in 1970 to close to 8% in 2006 (see Figure 3). The expansion of international trade has been the key feature of the country's rising prominence in the world economy with average annual growth rates of trade at three times the world rates. Already in 2005 China became the third largest trading nation after the United States and Germany and its contribution to the growth of world merchandise trade over the period 1996-2006 amounted to 20%. Looking forward, it is estimated that China will become the world's top exporter by the beginning of the next decade owing to attractiveness to FDI, a high domestic saving rate, improvements in productivity spurred by reduced internal and external barriers to trade, and a significant surplus of labour (OECD 2005).

The considerable expansion of China's trade in recent years concerns both goods and services. However, as compared with its goods trade, services exports remain at lower levels and are growing more slowly. Indeed, while goods trade surplus reached USD 134 billion in 2005, services saw a gradually deepening deficit that appeared at the beginning of the 1990s and reached USD 9 billion in 2005. Overall, Chinese goods exports account for approximately 90% of its total exports, which is substantially higher than the world average at a little over 80% (Table 2). This is clearly visible in the breakdown of China's current account in period 2000-2006 (Figure 4) which is characterised by a relatively stable negative balance on services (app. 0.5% of GDP), gradually improving income and current transfers balance (counted together, form -0.7% of GDP in 2000 to 1.4% in 2007) and a rocketing surplus on trade in goods (from 2.9% to 7.7% of GDP).

Table 2: Trade in Goods and Services, World and China (Percentage)

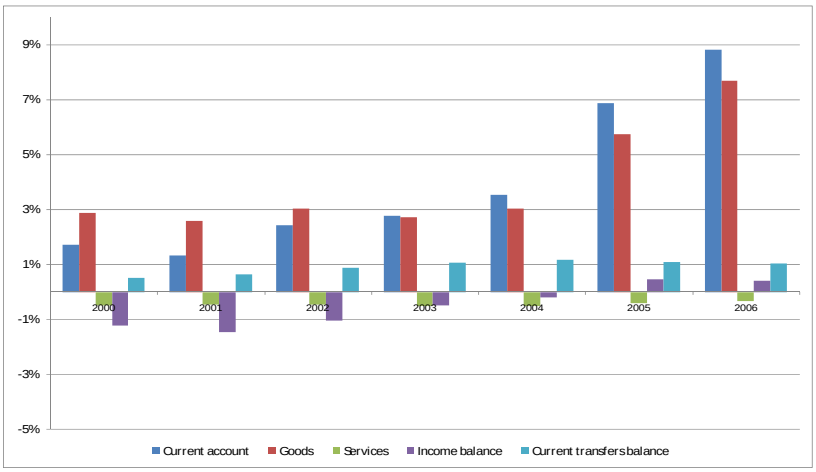
		Goods		Services	
		World	**China**	**World**	**China**
Exports					
	1994	80	86	20	14
	2001	80	89	20	11
	2004	80	90	20	10
Imports					
	1994	79	85	21	15
	2001	80	85	20	15
	2004	80	88	20	12

Source: IMF Balance of Payments Statistics (2006)

All this suggests that China's exceptional integration into the world economy was mainly driven by goods trade. As we discuss below, among other things, this reflects a certain duality in China's economic policy: the opening up of trade and FDI in

manufactured goods that resulted in the emergence of a largely private sector[5] and the high level of public ownership and important regulatory barriers in services sectors.

Figure 4: China's current account structure (as % of GDP)



Source: IMF IFS

The product composition of China's merchandise trade has undergone a major change since the beginning of reforms with the large rise in the value of manufacturing exports and the significant increase over the years in imports of fuel, energy, and capital goods (Greene et al., 2006). To illustrate more recent changes Table 5 presents the top 25 products (at the six-digit level of the harmonized system) exported by China in 1996 and 2006. First of all, the comparison reveals that China's exports were less concentrated in 1996 than they were in 2006; for instance the top 25 products accounted for 17% and 25% of total merchandise exports, respectively. Furthermore, a clear diversification is observed away from lower technology products such as footwear, toys, apparel and petroleum products towards ICT sector products such as automatic data processing machines, transmission apparatus and parts and inputs into electronic products, amongst others. Both the growing specialisation and the going up the value chain are manifestations of the raising sophistication of China's manufacturing sector. In the services sector, too, China has for some time already been diversifying away from transportation and financial and insurance services toward the exports of other business services (mainly professional services) as well as travel (Table 6).

China's major trading partners are on the export side the European Union followed by the United States and Japan (Figure 5). Together, these three trading partners provided markets for just below 50% of China's total exports in 2006, and made up 34% of China's import bill. On the imports side Japan and ASEAN countries are very important and, indeed, while China has positive trade balance with the EU and the US it has negative trade balance with the ASEAN group. It is quite clear that this reflects in part greater specialisation in production in the Asia region. As Greene et al. (2007) describe China has emerged as the final processing and assembly platform for a large volume of exports originating from its Asian OECD neighbours but destined for

[5] In terms of sectoral policies, emphasis was placed on investment in export-oriented manufacturing determining a more rapid development of these sectors.

markets in Europe and North America. With time the sourcing increasingly involves other fast growing Asian economies.

Table 3: Changing structure of China's trade: 25 top exports and their share in total exports

Product name	1996 value	1996 share	Product name	2006 value	2006 share
Petroleum oils and oils obtained from	2,789,285	1.50	Digital auto data process mach cntg	43,383,744	3.40
Input or output units, whether or not	1,984,923	1.10	Transmission apparatus, for radiate	35,753,598	2.80
Footwear with rubber…soles, leather	1,901,782	1.10	Parts and accessories of automatic	32,618,566	2.50
Footwear, nes, not covering the	1,831,672	1.00	Input or output units, whether or not	25,676,922	2.00
Toys nes	1,653,536	0.90	Parts suitable for use solely or	23,969,022	1.90
Parts and accessories of automatic	1,626,778	0.90	Monolithic integrated circuits, dig	18,410,882	1.40
Articles of apparel of leather	1,440,980	0.80	Optical devices, appliances and ins	13,231,578	1.00
Trunks, suit-cases…, etc, with	1,397,615	0.80	Television receivers including vide	12,837,204	1.00
Radio broad rece combined with soun	1,301,715	0.70	Storage units, whether or not	11,917,080	0.90
Other articles of plastics, nes	1,254,054	0.70	Video recording or reproducing appa	7,699,542	0.60
T-shirts, singles and other vests	1,136,873	0.60	Printed circuits	7,649,519	0.60
Storage units, whether or not	1,113,778	0.60	Petroleum oils, etc, (excl. crude)	7,048,166	0.50
Men's or boys' trousers, breeches,	1,067,967	0.60	Video recording or reproducing appa	6,994,314	0.50
Cargo containers designed to be	1,062,390	0.60	Digital process units whether or not	6,940,671	0.50
Bituminous coal, not agglomerated	933,028	0.50	Static converters, nes	6,870,148	0.50
Prepared or preserved fish (excl. m	926,594	0.50	Jerseys, pullovers, etc. of man-made	6,010,093	0.50
Parts and accessories of apparatus	907,436	0.50	Cargo containers designed to be car	5,983,954	0.50
Stuffed toys representing animals	894,411	0.50	Sound producing apparatus, not	5,899,948	0.50
Cargo vessels nes and other vessels	886,313	0.50	Footwear with rubber…soles leather	5,642,838	0.40
Telephone sets	864,714	0.50	Apparatus, for carrier-current line	5,354,160	0.40
Cigarettes containing tobacco	832,530	0.50	Footwear, nes, not covering the ank	5,308,018	0.40
Fans, table roof etc, with a self	794,176	0.40	T-shirts, singlets and other vests	5,312,081	0.40
Parts suitable for use solely	792,810	0.40	Automatic data processing machine	5,091,647	0.40
Other footwear; with rubber or plastic	788,533	0.40	Video games of a kind used with a	5,077,359	0.40
Men's or boys' anoraks, wind-cheate	781,899	0.40	Cargo vessel nes, and other vessels	5,070,829	0.40
Total	30,965,793	17.00		315,571,880	25.00

Source: COMTRADE, author's calculations

According to some crude approximations almost half of China's exports are the subject of such "triangular" trade though this share is higher in certain high technology products trade (see section *Importance of trade in China and India's growth* for more on processing trade). This has resulted in a shift in China's bilateral trade relationships that now show increasing trade surpluses with Europe and North America, and rising deficits with many Asian countries.

Table 4: China: Services Trade Composition (USD million and %)

	1990	1994	2001	2004
SERVICES - Total trade	1503	321	-5933	-9699
Services exports	5855	16620	33334	62434
Transportation services	46.2	18.5	13.9	19.3
Travel	29.7	44.1	53.4	41.2
Other services	24.1	37.4	32.7	39.4
Communications	2.7	4.2	0.8	0.7
Construction	na	na	2.5	2.4
Insurance	3.9	10.2	0.7	0.6
Financial	na	na	0.3	0.2
Computer and information	na	na	1.4	2.6
Royalties and licence fees	na	na	0.3	0.4
Other business services	15.7	21.3	25.3	32.0
Personal, cultural, and recreational	na	na	0.1	0.1
Government, n.i.e.	1.8	1.6	1.3	0.6
Services imports	4352	16299	39267	72133
Transportation services	74.6	46.8	28.8	34.0
Travel	10.8	18.6	35.4	26.5
Other services	14.6	34.6	35.7	39.4
Communications	0.3	0.9	0.8	0.7
Construction	na	na	2.2	1.9
Insurance	2.2	11.5	6.9	8.5
Financial	na	na	0.2	0.2
Computer and information	na	na	0.9	1.7
Royalties and licence fees	na	na	4.9	6.2
Other business services	6.7	19.0	19.1	19.3
Personal, cultural, and recreational	na	na	0.1	0.2
Government, n.i.e.	5.5	3.2	0.6	0.7

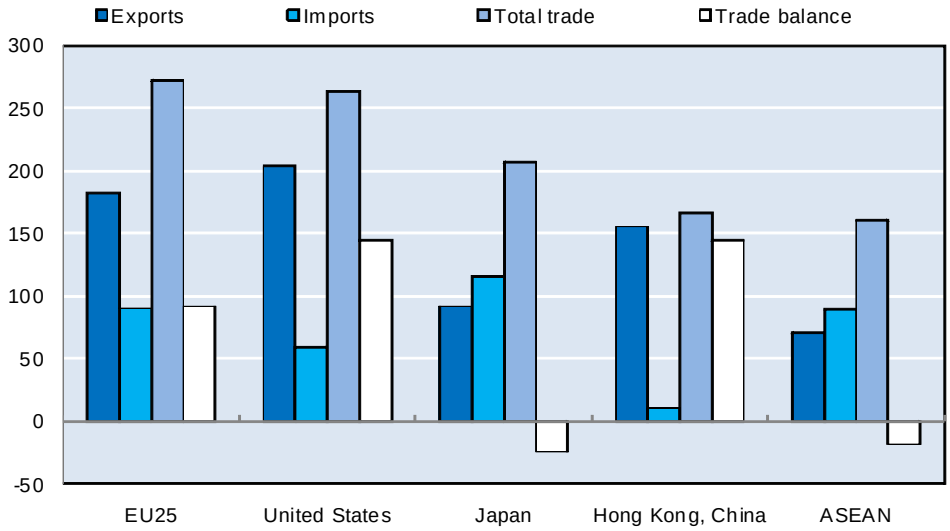
Source: IMF Balance of Payments Statistics (2006)

China's trade and investment liberalisation has created an attractive business environment and has had a significant impact on FDI inflows.[6] FDI grew from essentially zero in 1979 to USD 636 million in 1983, to USD 60.3 billion in 2005 (Greene et al., 2006). China has been the largest FDI recipient among all developing countries since 1993 and ranked the first in the world in terms of FDI inflows in 2002. Currently, China is the third largest recipient of FDI after the US and the UK (UNCTAD, 2005). It is important to note however that China's FDI performance must be viewed in an international perspective. In terms of FDI inflows per capita, China ranks lower than all OECD countries save for one, and even ranks relatively

[6] For a detailed analysis of China's investment policy, see OECD (2003) *China: Progress and Reform Challenges*, OECD, Paris, 2003 and OECD (2006) *China: Open Policies towards Mergers and Acquisitions*, OECD, Paris, 2006.

low among developing countries.[7] Additionally, there are some concerns about the quality of these investment flows; much of China's FDI is relatively short-term, in labour intensive manufacturing, with foreign investment in high-tech and the services sectors lagging behind (Greene et al, 2006).

Figure 5: China's top trading partners (in billions USD)



Note: ASEAN corresponds to Buenei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam
Source UN COMTRADE, WDI

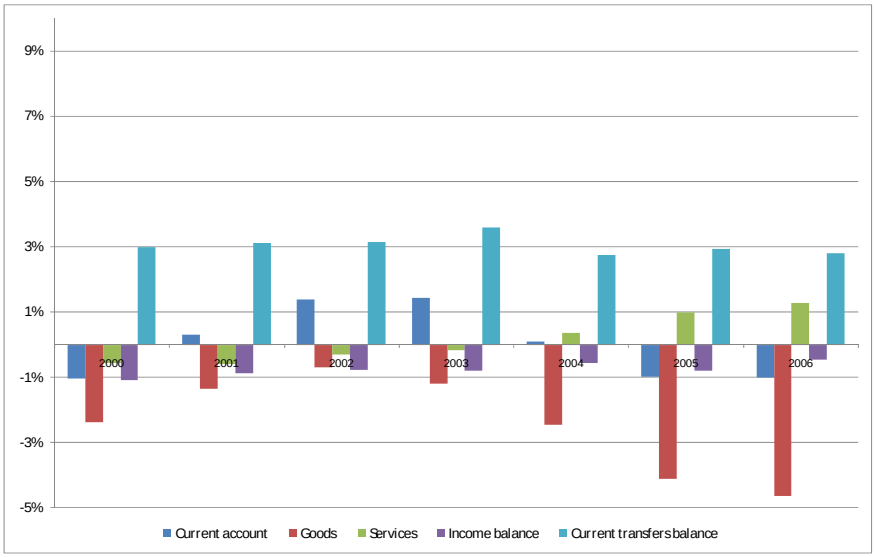
India's recent economic dynamism has led many to compare it with China and to expect a similar dramatic insertion in world markets. However, India's trade expansion is much less impressive and its nature is quite different from that of China. Its share in world trade of goods and services has first declined steadily since the beginning of the 1970s to around 0.5% at the beginning of 1990s and then rose steadily to just above 1% currently. The compound annual growth rate of India's exports of goods and services for the 1990-2005 period was 14%—well above the world average growth of 6%. In particular, in the last five years Indian exports have increased at around 18-20% per annum—three times the rate of world trade growth. Yet, these significant increases reflect to a large extent a relatively low base; India's contribution to the growth of world trade over the period 1996-2006 amounted to a mere 2%, as compared to 20% in the case of China.

Remarkably, the recent growth in India's trade has been led by services rather than manufacturing. This is illustrated by the evolution of the structure of India's current account (Figure 6) which shows a deepening negative balance on trade in goods (form -2.4% of GDP in 2000 to -4.6% of GDP in 2006) and a gradually improving balance on services trade (form -0.6% of GDP in 2000 to 1.3% in 2006)—broadly speaking a reverse of the situation in China (see Figure 4 and discussion above). A distinctive feature of India's current account is the large and consistently positive current transfers balance, driven mainly by remittances.

[7] OECD (2003) *op. cit.*, pp. 37-40.

The deteriorating balance on goods trade reflects deepening deficits in trade of capital and intermediate goods (and raw materials to some extent) which apparently cannot be adequately satisfied by the Indian manufacturing sector. Balance on consumer goods was actually positive and growing over the period 2003-2006. Deficiencies of the manufacturing sector are also reflected in the export performance. Despite the fact that India is relatively abundant in skilled labour and capital, its manufacturing exports are highly concentrated in low-technology goods and the share of high-technology manufactured goods in its total exports has barely changed since the mid-1990s and remains under 5%, as compared to 30% for China (see Table 5). Indeed, India's current merchandise export structure is still heavily skewed towards petrol products, jewellery, furniture, chemical products and textiles and wearing apparel, a structure that resembles to a certain extent the structure of China's exports at the beginning of the 1990s (Table 7). Superficially, the structure of exports seems a little more concentrated in 2006 than in 1996 but this is largely driven by the emergence of exports of petroleum oils.[8] Additionally, it is not easy to classify the direction of changes in the structure of top India's exports. On the one hand a few more sophisticated products such as motor vehicle parts made it to the top 25 products in 2006. On the other hand several traditional manufacturing products such as gems and jewellery, wearing apparel and certain food products that already dominated India's exports in 1996 have yet gained in importance in 2006. This suggests that India has not integrated into the global production networks of high technology products to the extent China did (Table 5).

Figure 6: India's current account structure (as % of GDP)



Source: IMF IFS

[8] As argued in Kowalski and Dihel (2007), this is due to the rapid development of domestic refining capacity. In 1996, India imported both crude and refined petrol (around 2/3 crude and 1/3 refined) and exported only negligible quantities. In 2005 its imports of crude petrol have more than tripled (in quantity), its imports of refined petrol have considerably declined, and refined petrol has become a key export. It is yet unclear whether this export boom is sustainable or it was due to an incipient excess domestic refining capacity.

The still very traditional profile of India's merchandise trade is also confirmed by a more detailed analysis of its revealed comparative advantage indices and growth rates conducted by Dihel and Kowalski (2008). Most of the products in which India is estimated to have a revealed comparative advantage belong to the primary and labour intensive sectors. During the last 10 years, India has developed a revealed comparative advantage only in chemical and metal manufacturing. In fact, in high-technology segments such as *Office, accounting and computing machinery* and *Radio, television and communication equipment* RCA indices have actually deteriorated over time.

Table 5: Changing structure of India's trade: 25 top exports and their share in total exports

Product Name	1996 value	1996 share	Product Name	2005 value	2005 share
Diamonds non-industrial nex excluding	4028039	9	Petroleum oils, etc. (excl. crude)	11439920	9
Semi-milled or whooly milled rice	891755	2	Diamonds non-industrial nex excluding	11214411	8
Oil-cake and other solid residues	769332	2	Non-agglomerated iron ores and…	3519748	2
Men's or boy's shirts of cotton	748712	2	Art. of jewellery and pts thereof	3357736	2
Frozen shrimps and prawns	725340	2	Other organic compounds, nes	1690186	1
Combed single cotton yarn , with>=8	557561	1	Other medicaments of mixed or unmixed	1424499	1
Women's or girls' blouses, shirts,	526754	1	Semi-milled or whooly milled rice	1364245	1
Art. of jewellery and pts thereof	517244	1	T-shirts, singlets and other vests,	1107091	1
Petroleum oils, etc. (excl. crude)	482013	1	Flat rolled prod, i/nas, plated or	1059096	1
Non-agglomerated iron ores and..	428364	1	Women's or girls' blouses, shirts,	1018038	1
Articles of apparel of leather	424351	1	Oil-cake and other solid residues	968327	1
Cotton, not carded or combed	413215	1	Frozen shrimps and prawns	853041	1
Cashew nuts, fresh or dried	362095	1	Furnishing articles, nes, of cotton	800439	1
Furnishing articles, nes, of cotton	353989	1	Motor vehicle parts nex	780573	1
Coffee, not roasted or decaffeinate	307810	1	Men's or boys' shirts of cotton	688108	0
Uncombed single cotton yarn, with	304175	1	Copper cathodes and sections	677377	0
Other medicaments of mixed or unmixed	303013	1	Cotton, not carded or combed	639447	0
T-shirts, singlets and other vests,	284767	1	Skirts and divided skirts of cotton	619769	0
Uppers and parts thereof(excl. sti	218913	0	Cashew nuts, fresh or dried	586046	0
Men's or boys' shirts of cotton, kn	216426	0	Frozen boneless bovine meat	559829	0
Pile floor coverings	216382	0	Made up articles (incl. dress patte	517458	0

Product Name	1996 value	1996 share	Product Name	2005 value	2005 share
Frozen Fish, nes	205101	0	Insecticies, put up for retail sale	496891	0
Dresses of cotton	194191	0	Automobiles with reciprocating pist	485405	0
Insecticies, put up for retail sale	185512	0	Flat rild prod, i/nas, in coil, hr.	455084	0
New pneumatic tyres, of rubber of	185445	0	p-Xylene	440296	0
Total	13850499	30	total	46763060	31

Source: COMTRADE, author's calculations

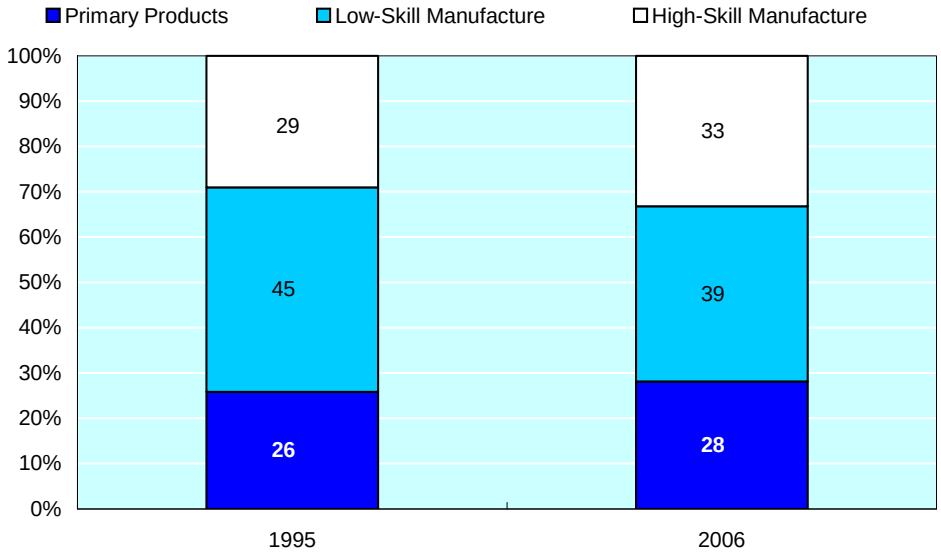
In addition to the analysis of revealed comparative advantage indices Dihel and Kowalski (2008) reported on two different analytical assessments that capture the skill intensity evolution of India's export mix. The methodology based on the skill intensity classification developed by UNCTAD [9] revealed that despite the rapid growth in trade flows, India has not managed to develop a high-technology export sector and that its export mix in terms of skills requirements remained stable in period (1996-2005) (Figure 7). Another classification developed by the Hamburg Institute of International Economics based on the ISIC-classification revealed that the share of high-technology manufactured goods (such as pharmaceuticals, radio and telecommunication equipment, office and computer equipment) in India's total exports has barely changed since 1996 and remains under 5%. Even the share of medium-technology products which include the whole of the chemical sector and motor vehicles has increased by less than 5 percentage points and stood at 19% in 2005. Table 8 complements these findings by presenting the World Development Indicators classification of high technology exports; they provide higher estimates of shares of high technology trade but a similar flat trend and performance inferior to that of Brazil and China.[10]

Services appear to have done much better and India has emerged as a global player in information technology and business process outsourcing, as well as services related to pharmaceuticals. Mode 4- related trade has also been important amounting in value terms to over 90 % of total cross-border services exports (Dihel and Kowalski, 2007). A process of export reorientation is clearly underway and a significant shift has taken place towards more advanced, in some cases high-skill intensive, services. Moreover, new services, such as computer and selected professional services, have emerged in India's exports to a greater extent than in other (developing and BRIC) countries. A closer look at the sectoral composition of services trade in Table 9 reveals *Other services* being the top export category during the period 1994-2004. *Computer and information services* have experienced the largest increases, while transport and travel services registered a considerable drop between 1994 and 2003. In 1994 three types of services (*Travel*, *Transportation*, and *Other business services*) accounted for almost 100 % of all services exports; in 2000 they represented 57% and in 2003 only 42%. The most spectacular evolution was recorded by *Computer and information services*

[9] Source: UNCTAD, The Least developed Countries Report 2002, New York and Geneva 2002. The original categories are supplemented with the category of primary.
[10] The figures are in percentage of manufactured exports and not total exports.

whose share in India's services exports almost doubled between 2000 and 2003 to reach almost half of India's services exports.

Figure 7: Evolution of India's export mix according to skill intensity (1996 and 2005)



Source: UN COMTRADE.

Table 6: High Technology exports

	2000	2002	2004
Brazil	18.61	16.83	11.59
China	18.58	23.31	29.81
India	5.01	4.76	4.88

Source :WDI

A more detailed analysis of India's services export performance based on selected trade indicators such as sectoral revealed comparative advantage and intra-industry trade indices performed by Dihel and Kowalski (2008) confirms that India has a strong revealed comparative advantage in *Computer and communication services*. *Travel*, *Financial* and *Communication services* feature high levels of intra-industry trade, indicating India's integration into the global service supply chain. Interestingly, trade in *Computer services* in India seem to be entirely an inter-industry phenomenon.

Table 7: India: Composition of Services and TradeUSD millions and percentages

	1990	1994	2000	2001	2002	2003
SERVICES	-1465	-2162	-2503	-2763	-1563	-2313
Total Credit	4625	6038	16684	17337	19478	23397
Transportation services, credit	20.7	28.4	11.9	11.8	12.7	13.1
Travel credit	33.7	37.6	20.7	18.4	15.9	16.6
Other services, credit	45.6	34	67.4	69.7	71.4	70.3
Communications			3.6	6.4	4.0	4.6
Construction			3.0	0.4	1.2	1.2
Insurance	2.7	2.4	1.5	1.6	1.7	1.7
Financial			1.7	1.8	3.1	1.7
Computer and information			28.3	42.7	45.6	48.6
Royalties and license fees	0.0	0.0	0.5	0.2	0.1	0.1
Other business services	42.5	31.5	24.9	13.5	13.9	11.1
Government, n.i.e.	0.3	0.1	3.9	3.1	1.8	1.3
Total Debit	6090	8200	19187	20099	21041	25710
Transportation services, debit	56.1	55.7	45.4	42.3	40.5	36.4
Travel debit	6.5	9.4	14.0	15.0	14.2	13.7
Other services, debit	37.4	35.0	40.6	42.8	45.3	50.0
Communication			0.5	1.3	4.8	2.4
Construction			0.7	2.3	2.9	4.7
Insurance	5.6	6.0	4.2	4.0	4.2	4.5
Financial			6.7	8.9	6.8	1.9
Computer and information			3.0	4.5	4.3	2.6
Royalties and license fees	1.2	1.1	1.5	1.6	1.6	1.6
Other business services	28.2	25.8	22.5	18.6	19.4	31.5
Government, n.i.e.	2.4	2.1	1.5	1.5	1.2	0.8

Source: IMF BOP (2006).

In terms of geographical orientation of goods and services exports in recent years India has increased its shares in all partner countries' markets but these shares remain relatively small and concern a few low-technology products. Since 2000, India ´s orientation towards OECD markets has been slowly decreasing, from 55% of its merchandise exports to only 43% in 2004. The EU remains the top destination but has seen its share of Indian exports reduced by 3 percentage points in 5 years. In merchandise trade, the rise of China as a key export destination is particularly

noticeable. Exports to China increased from less than 2% of total India's exports (rank 14) in 2000 to more than 6.6 % in 2004 (rank 3) and are still growing at the rate of 58% per annum. Exports to Singapore have also grown and now represent around 5% of India's total. However, apart from the phenomenal rise of exports to Singapore, which was heavily influenced by exports of refined petroleum, there are few signs that India is fully integrating into the south and/or South-East Asia trading hub. A similar trend can be identified in terms of India's services trade with OECD countries: the OECD countries' group share in India's services exports decreased from approximately 33% in 1999 to about 26% in 2003.

India's inward FDI has increased considerably since 1991 and the annual FDI inflows grew from US$3.1 billion in 2002/03, to US$5.6 billion in 2005/06.[11] As in many other parts of the world, but perhaps for different reasons, FDI inflows into India are shifting increasingly away from manufacturing towards services sectors. In fact, in India, FDI is heavily concentrated in services. The share of services sector in total FDI inflows rose from 5% in 1990 to more than 50% during the post-reform period (1991-2005). However, likely reflecting the structure of services trade barriers (see below), the inflow of services FDI has been restricted to a few the most deregulated sectors such as transport and financial services. Between 1991 and 2005, the top six recipients of FDI have been electrical equipment (14.5%), transportation industry (11%), telecom (11%), power and oil refinery (10%) and other services sector (8.45%).[12] When it comes to FDI outflows from India, a similar concentration in services sectors is observed. The share of services in total FDI outflows increased to around 45% in the period 1999-2003. Non-financial services constitute around 36% and trade approximately 5% of total FDI outflows.

Importance of Trade in China and India's Growth

The remarkable parallel growth and trade performance in both China and India prompts the classic "chicken and egg question", namely, whether the opening up to trade drove the growth of GDP or whether trade increased simply as a consequence of GDP growth and expansion of their shares in the world GDP. To gauge the influence of trade on GDP several analysts consider the evolution of exports to GDP or exports and imports to GDP ratios. Yet, the use of such ratios can be criticised as meaningless or even misleading since exports or imports are turnover measures whilst GDP is a valued added concept. Still, as long as we remember this important distinction these measures can give us a feeling of the extent of exporting activity as compared to economy's income.

In China, clearly, the observed trade expansion reflects at least in part greater specialisation in production in the Asia region where China engages in the final processing and assembly of large volume of exports originating from its Asian neighbours that are destined for markets in Europe and North America. As mentioned above, according to certain rough approximations almost half of China's exports are the subject of such "triangular" trade though this share is higher in certain high

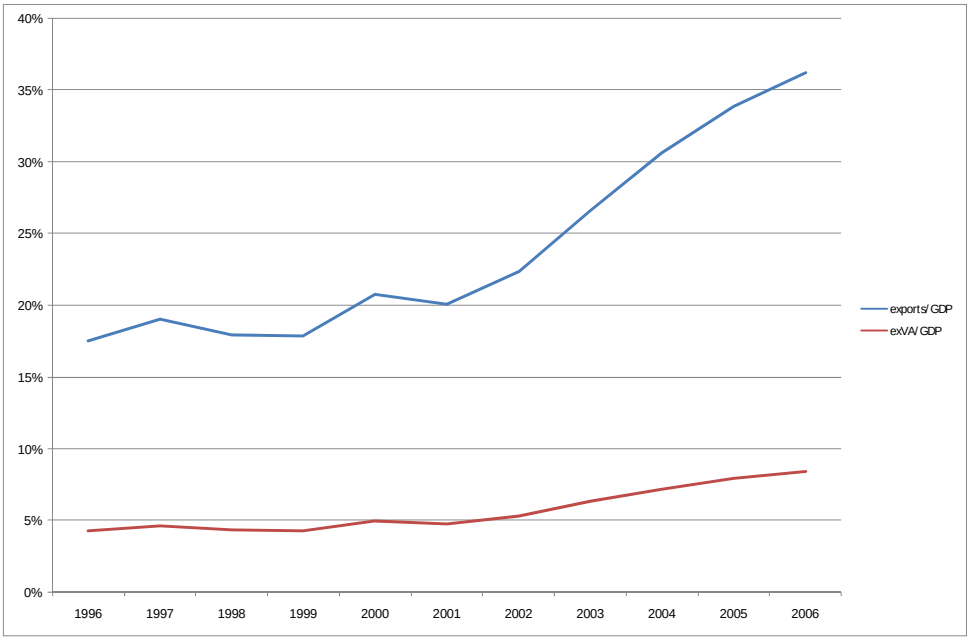
[11] Based on data from UNCTAD and the Indian Secretariat for Industrial Assistance. There is a discrepancy in FDI numbers in certain cases. The RBI calculates FDI inclusive of reinvested earnings. However, the numbers used here, which were provided by the Department of Industrial Policy and Promotion, look only at investment made through the automatic or approval route.

[12] Monthly Reports by the Indian Secretariat for Industrial Assistance.

technology products trade. Certainly, existence of such a processing activity would be reflected in relatively high exports to GDP ratios.

In this context some commentators have suggested that that the claim that China is an export-led economy might be a myth (UBS, 2007). Processing activity is not nearly as present in India but a similar question about the actual contribution of exports to its GDP can be asked. UBS (2007) argues that despite the fact that imports and exports are rising in absolute terms when expressed as ratios of GDP, the estimate of actual value added contribution of exports to GDP is barely rising over time. Yet, the UBS (2007) analysis is itself not free of limitations; the value added contribution is calculated by using very broad assumptions about the domestic content and the shares of valued added in domestic content.[13] When this is done, unsurprisingly, the actual exports value added share for most Asian economies is far less than the exports/GDP ratio; for China this ratio is 10% and is not increasing over time as rapidly as the exports to GDP ratio does. We have taken the same approach as the UBS (2007) with the improvement that the actual data from social accounting matrices was used to measure the value added content in the final value of production by broad sector.[14] These were then multiplied by corresponding exports data from the UN COMTRADE database to obtain an estimate of the export value added. The results of this exercise for China and India are presented in Figures 8 and 9.

Figure 8: China: Exports to GDP and exports value added to GDP ratio

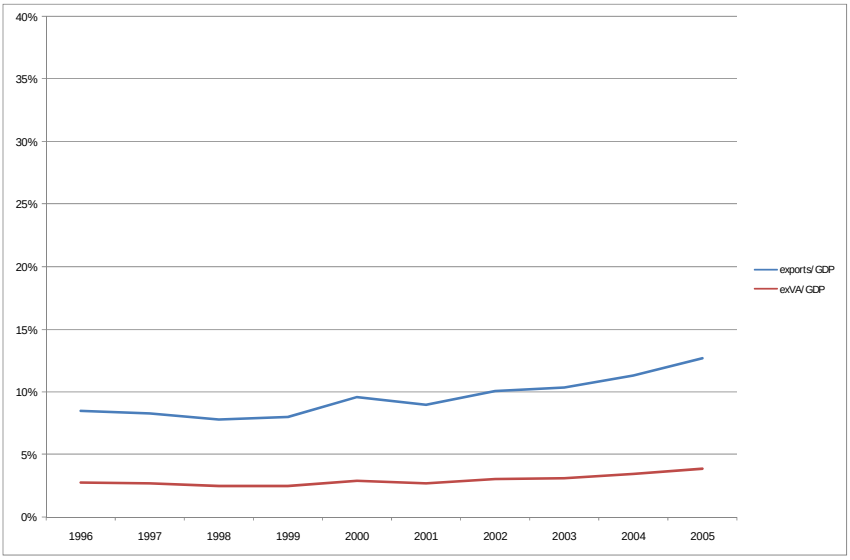


Source: GTAP, COMTRADE, author's calculations

[13] They assume a 50% domestic content share for light manufacturing, a range from 20% to 50% for electronics and 70% for heavy industry and resource exports. Next a constant value added to total domestic content of 50% is assumed.

[14] The data comes from the Global Trade Analysis Project database.

Figure 9: India: Exports to GDP and exports value added to GDP ratio



Source: GTAP, COMTRADE, author's calculations

It is evident that both for China and India a simple export to GDP ratio statistic overestimates the actual contribution of exports to GDP. For China the simple ratio of exports to GDP is four times larger than the estimated export value added to GDP ratio (36% in 2005 compared to 8% in 1996). For India the simple ratio is 3.25 times larger (13% in 2005 compared to 4% in 1996). More importantly, however, both the simple and the more sophisticated ratios are much lower for India (e.g. 4% of exports value added in GDP as compared to 8% for China) suggesting that international trade likely plays currently a less important role in India's growth as compared to China. Moreover, this ratio has clearly been increasing for China, especially since 2000, while for India it has been lingering around the 3% level. From these figures we can conclude that trade has played a lesser role in India's recent economic expansion. This conclusion is also consistent with the fact that India's share in world trade is still currently lower than its share in world output, which is not the case for China (e.g. Bussière and Mehl, 2008).

3. Trade Policy Developments

China initiated gradual and incremental economic reforms over 25 years ago, beginning the transition from central planning to a more market-based economy. Access to foreign markets, capital and advanced technology through greater integration into the multilateral trading system were important ways in which this process was meant to be facilitated. The resulting opening to world trade over the past quarter of a century is one of the more impressive aspects of China's economic reform and structural change and its accession to the WTO in 2001 can be seen as a coronation of the integration process.

As already foreshadowed, China's transition to a more open economy was a gradual and highly managed transition. It began with export processing in a few authorised special export processing zones (EPZs) along China's southern coast. By the mid-1980s export processing was more widely spread and China was increasingly characterised by a two-tiered export regime: a very open export processing segment

benefiting from duty-free imports and a domestic export sector that was afforded high levels of protection through tariffs and multilayered non-tariff barriers (Greene et al., 2007).

In 1992 China declared its intention to establish a "socialist market economy" and began to make substantial tariff cuts. This process was greatly strengthened by the extensive reforms that China agreed to implement as a part of its WTO accession. These included lowering of trade barriers in almost all sectors of its economy, providing national treatment, protecting intellectual property rights, improving transparency and eliminating non-tariff barriers among others. Some of these commitments are still being implemented and this ongoing process is likely to further deepen China's integration with the world economy.

Upon accession to the WTO, China agreed to bind all its import tariffs. After implementing all the commitments China's average bound tariff on agricultural products will decrease to 15%, ranging from 0 to 65%, with the highest rates applied to cereals. For industrial goods this average will decrease to 8.9% with a range from 0 to 47%, with the highest rates applied to photographic film and automobiles and related products (WTO, 2001). The two panels of Table 10 present bilateral trade-weighted tariffs imposed by China in year 2001 and after implementation of its WTO commitments which were scheduled mostly for 2004 but in no case later than 2010 (WTO, 2001). China also has committed to a further phased reduction and removal of non-tariff barriers, for the most part by 2005, but no later than 2010. China has also committed to limit its subsidies for agricultural production to 8.5% of the value of farm output (Greene et al., 2006).

As Table 11 shows, the reduction of tariffs during the 1990s has resulted in China being perhaps one of the most open developing countries with tariff levels close to OECD levels. The simple average Chinese tariff rate on non-agricultural products was reduced from 41% in 1992 to 14% in 2001 and further to 9% in 2005. The simple average tariff on agricultural imports was reduced from 47% in 1992 to 24% in 2001 and 15% in 2005.

The trade reforms that China has embraced as a result of its WTO accession are a continuation of a long standing trend that saw a sustained reduction in non-tariff barriers and in levels and dispersion of tariffs. However, in the area of services, China's WTO commitments represent milestones (Greene et al., 2006). They include opening of key services sectors to foreign participation, elimination of geographical limitations, forms of establishment, and scope of business activities among others. Additionally, China agreed to allow foreign services suppliers to engage in the retailing of all products by the end of 2003. Since the end of 2004, all firms have the right to import and export all goods except those subject to state trading monopolies (such as oil or fertilizers). Foreign firms have been allowed to distribute virtually all goods domestically since the end of 2006. Foreign financial institutions are permitted to provide services without client restrictions for foreign currency business upon accession; local currency services to Chinese companies (since December 2003); and services to all Chinese clients (since December 2006). China promised to eliminate by the end of 2006 most restrictions on foreign entry and ownership, as well as most forms of discrimination against foreign firms. Access is likely to be improved further with the planned introduction of transparent and automatic licensing procedures.

Table 8: China's average trade-weighted tariffs by trading partner and product in the baseline, year 2001

	Australia	New Zealand	China	Hong Kong-China	Russia	Japan	Korea	Canada	United States	Mexico	EU15	Rest of Western Europe	Rest of World	Average for product category
Agriculture and fishing	19.3	12.9	0.0	27.1	23.9	9.0	14.5	20.7	68.4	4.5	21.0	11.9	65.1	50.4
Natural resources	0.0	0.0	0.0	3.0	0.3	2.9	2.8	1.2	2.3	0.1	1.5	2.8	0.5	0.6
Coal	4.5	4.5	0.0	0.0	4.3	3.5	0.0	0.0	4.5	0.0	3.6	0.0	4.1	4.3
Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Food products and beverages	17.1	20.3	0.0	33.5	16.7	24.3	22.2	19.5	18.5	9.6	24.5	17.4	15.4	18.3
Textiles, clothing and leather	18.6	10.8	0.0	21.7	19.3	21.7	18.8	10.5	17.0	13.0	16.7	17.5	18.0	19.4
Chemicals and chemical products	15.6	10.6	0.0	14.5	9.1	12.6	11.6	8.7	10.9	14.2	11.4	10.1	15.7	12.9
Other manufacturing	14.7	8.0	0.0	14.1	3.3	14.6	16.0	2.3	10.4	18.5	14.5	14.3	9.9	11.7
Metal products	11.4	7.2	0.0	4.7	5.5	8.0	9.4	4.2	5.3	7.1	9.0	4.2	6.4	7.5
Motor vehicles and parts	22.5	14.9	0.0	17.8	17.6	42.3	47.7	32.5	30.3	23.9	36.2	43.9	35.4	38.1
Machinery and equipment	13.4	12.4	0.0	13.8	6.0	13.0	12.9	8.0	10.3	14.5	12.1	12.8	13.5	12.1
Electronic equipment	11.6	10.9	0.0	10.0	12.8	10.5	11.3	11.4	10.2	9.2	10.8	11.3	8.9	10.1
Average for partner country	10.8	11.9	0.0	4.7	6.3	13.6	13.4	10.0	13.6	7.6	10.9	8.4	12.2	

After implementation of WTO accession commitments

	Australia	New Zealand	China	Hong Kong-China	Russia	Japan	Korea	Canada	United States	Mexico	EU15	Rest of Western Europe	Rest of World	Average for product category
Agriculture and fishing	18.9	8.3	0.0	10.0	15.3	8.1	10.8	19.6	4.7	6.3	20.2	9.3	6.3	9.7
Natural resources	0.0	0.0	0.0	3.0	0.2	2.9	2.8	1.2	2.2	0.1	1.5	2.7	0.6	0.5
Coal	4.5	4.5	0.0	3.5	4.3	3.5	4.1	5.0	4.5	3.7	4.8	4.4	4.2	4.4
Oil	0.0	0.0	0.0	0.0	0.0	3.0	0.0	6.0	0.2	3.0	0.1	0.0	0.0	0.0
Food products and beverages	11.5	10.0	0.0	17.5	9.8	13.8	14.8	9.6	11.2	5.3	12.0	11.1	10.9	11.2
Textiles, clothing and leather	16.0	10.1	0.0	13.7	12.0	9.2	9.4	5.3	8.9	6.8	9.5	9.4	8.6	9.6
Chemicals and chemical products	8.6	6.9	0.0	7.2	6.0	7.2	6.4	5.1	6.6	7.7	7.1	6.7	11.4	8.2
Other manufacturing	7.2	3.5	0.0	7.5	1.4	10.9	9.8	0.8	6.2	9.9	8.6	8.7	5.9	7.2
Metal products	6.0	3.8	0.0	3.7	4.4	5.4	6.0	3.1	3.6	4.3	5.9	3.6	4.9	5.1
Motor vehicles and parts	12.2	10.3	0.0	9.2	11.9	15.9	18.3	11.4	13.8	8.9	14.6	16.3	13.9	15.0
Machinery and equipment	6.9	6.4	0.0	7.5	5.0	6.7	6.7	4.9	5.2	7.8	6.9	7.7	7.4	6.6
Electronic equipment	1.1	0.8	0.0	2.0	4.0	2.4	4.2	1.0	0.6	0.9	1.4	1.9	1.2	1.8
Average for partner country	8.0	6.5	0.0	2.6	4.4	6.2	6.8	6.1	4.0	2.0	5.3	4.8	5.1	

Source: CEPII MacMap data accessed through GTAP database

Table 9: China's tariff structure

	Agricultural products			Non Agricultural products			Maximum tariff
	Simple mean tariff	*Weighted mean tariff*	*Std dev*	*Simple mean tariff*	*Weighted mean tariff*	*Std dev*	
1992	46.6	19.2	26.5	41.4	33.0	33.1	220.0
2001	24.5	54.3	21.0	14.5	12.6	9.3	121.6
2004	16.5	22.8	12.0	9.6	5.2	6.8	68.0
2005	15.0	11.8	10.6	9.0	4.6	6.2	65.0

Source: UN TRAINS

Greene et al. (2006) provide a detailed quantitative analysis of China's services liberalisation commitments as specified in its GATS schedule. Indices of trade restrictiveness are calculated to describe the consequences of implementation of China's commitments in five services sectors (banking, insurance, telecommunication, distribution and engineering services).[15] It is estimated that implementation of WTO commitments in banking would lower the restrictiveness of this sector to below the OECD average. By contrast, in all other sectors, despite significant liberalisation measures, the restrictiveness indices remain above the OECD average but are lower than in most developing countries covered in the analysis (see Greene et al., 2006). Greene et al. (2006) also estimate welfare implications of China's implementation of WTO commitments in goods and services with a use of a multi-country, multi-sector computable general equilibrium model of the world economy that features increasing returns to scale and large-group monopolistic competition. Importantly, the model includes a treatment of foreign direct investment on a bilateral basis which, given the importance of foreign presence in the Chinese economy, is essential for understanding the impacts of its liberalisation. The results indicate that China itself clearly stands to gain substantially from its liberalisation. Implementation of the WTO commitments by China in goods and services sectors is estimated to increase its real income by almost 2%, while a scenario with full liberalisation is expected to yield a 3% increase in its real income, the estimates that are considered as quite high in this type of analysis.[16]

Despite the ambitious GATS commitments and the fact that more than a half of China's merchandise exports are generated by foreign-invested companies there is some indication that China's FDI policies may be more restrictive than trade or investment data suggest. OECD's FDI regulatory restrictiveness index which aims to

[15] The approach is described in OECD (2007b), Modal Estimates of Services Barriers, OECD Trade Policy Working Paper No. 51.

[16] The estimated impact OECD economies is limited and heterogeneous across the group. This is because of the still limited extent of trade integration with the OECD area and the structure of bilateral trade flows between China and individual OECD economies which reflect divergent patterns of comparative advantage as well as differences in structure of trade barriers and geographical location. The most direct impact is expected through improved export performance of OECD countries that are already trading with or investing intensively in China but still face significant market access barriers. The observed trade patterns suggest that the impact through the market access channel is likely to be more important for Korea, Japan, Australia, and New Zealand, while the impact on other OECD economies is likely to be limited.

measure deviations from national treatment, i.e. discrimination against foreign investment (OECD, 2006), suggests that China's FDI policies were somewhat more restrictive than those in India in 2006, including in the manufacturing sector (see Table 12). Analysis of components of the total index for China in OECD (2006) reveals that the gap between China and India is largely due to cumbersome screening and operational restrictions rather than limitations on foreign ownership.

Table 10: FDI Regulatory Restrictiveness Scores by Country and Sector (0=open, 1=closed)

	China	India	OECD Average
Business services			
Legal	0.300	1.000	0.221
Accounting	0.425	1.000	0.196
Architecture	0.100	1.000	0.094
Engineering	0.100	0.050	0.094
Total	0.231	0.863	0.152
Telecoms			
Fixed	0.550	0.350	0.198
Mobile	0.450	0.350	0.143
Total	0.525	0.350	0.184
Construction	0.150	0.250	0.074
Distribution	0.450	0.600	0.072
Finance			
Insurance	0.350	0.450	0.135
Banking	0.550	0.350	0.157
Total	0.504	0.373	0.152
Hotel & Restaurants	0.150	0.050	0.072
Transport			
Air	0.550	0.550	0.443
Maritime	0.550	0.050	0.280
Road	0.150	0.050	0.106
Total	0.466	0.215	0.299
Electricity	0.750	0.150	0.326
Manufacturing	0.400	0.200	0.076
Total	0.405	0.401	0.148

Source: OECD (2006)

Overall, the available evidence suggests that China's integration process so far is characterized by a certain duality. On the one hand the opening up of trade and, perhaps to a lower extent FDI, in manufactured goods has spurred the emergence of a large private sector. On the other hand the high level of public ownership and important regulatory barriers seem to dominate the services sectors. Services activities continue to be constrained by high entry barriers, excessive state involvement, opaque regulatory process and overly burdensome licensing and operating requirements. The full implementation of GATS commitments would imply significant reforms and liberalisation measures with important gains for China and many of its trading partners. The need for additional measures supporting the development of the sector is fully appreciated by China's authorities: the 11th Five Year Plan for the first time emphasises development of the services sector with a view to alleviate the potential negative impact on the overall structure of industry, job opportunities and comprehensive competitiveness.

2005 has marked India's tenth anniversary as a member of the WTO and more than fifteen years of sustained reductions in trade protection. The extent of India's tariff liberalisation is well illustrated by the fall in collected customs duties expressed as a percentage of the value of imports (from more than 60% in 1990 to around 10% currently) as well as the reduction of the share of customs duties in government revenue (from above 40% in 1990 to less than 10% currently, Figure 10). The decreasing reliance on trade taxes reflects continuing commitment to trade liberalisation but also the shifting of revenue collection from tariffs to more efficient ways of collecting taxes by broadening the tax base and movements towards a value added tax.

Tariff reductions have been implemented across the board generating market access improvements but also entailing the added benefit of reducing tariff dispersion, and thus economic distortions and complexity (Table 13). Over the period 1990-2005 (for which we have consistent data) the proportional tariff reductions on imports of manufacturing merchandise have gone deeper than corresponding cuts in the agricultural sector. In fact, for agricultural products the reduction in tariffs calculated on trade-weighted basis is negative with tariffs actually increasing by 2 percentage points over the period while that for manufacturing (38) suggests considerable liberalisation effort in the past. The corresponding proportional tariff cuts for agriculture and manufacturing are respectively -4% and 75%. Tariff peaks for non-agricultural products have continued falling from 30% in 2003 to 12.5% in 2006 while tariffs peaks on agricultural products have remained unchanged. By focusing non-agricultural tariff reduction on tariff peaks, India has been narrowing protection differentials between raw materials, capital goods and consumer goods.

Figure 10a: Taxation of international trade: Duties as % of value of imports of goods and services

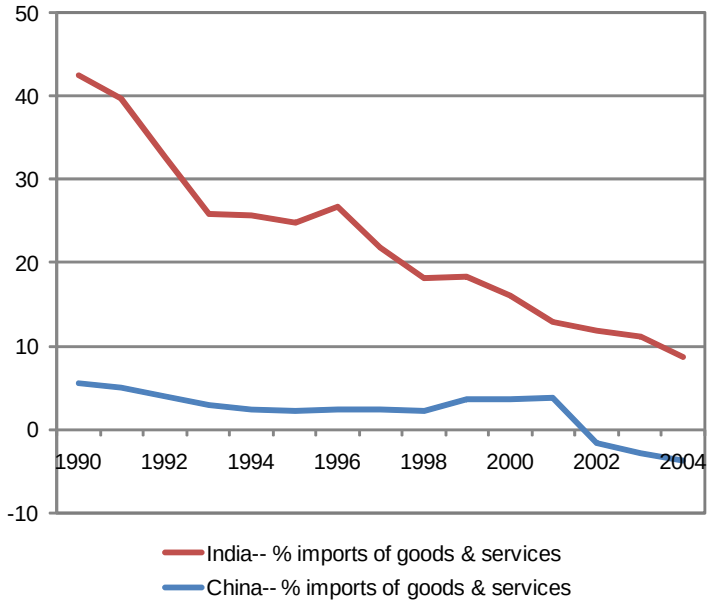
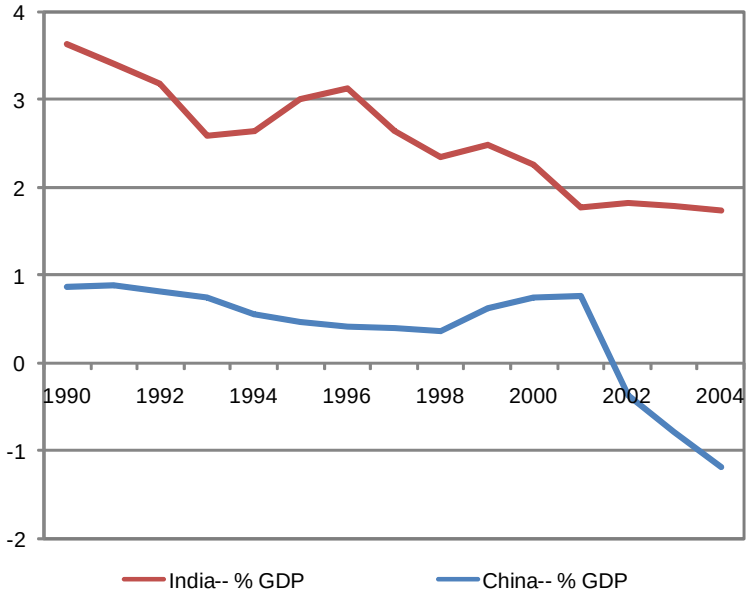


Figure 10b: Taxation of international trade: Duties as % of GDP



Source: IMF GFS, author's calculations

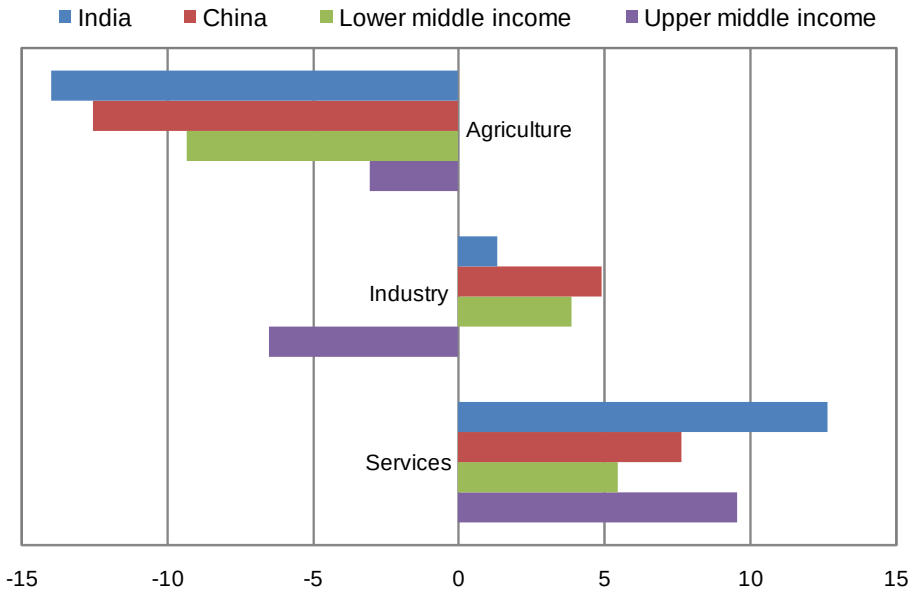
Table 11: India's tariff structure

	Agricultural products			Non Agricultural products			Maximum tariff
	Simple mean tariff	*Weighted mean tariff*	*Std dev*	*Simple mean tariff*	*Weighted mean tariff*	*Std dev*	
1990	82.9	50.3	46.3	82.2	49.6	38.5	355.0
2001	40.6	49.1	26.8	31.0	24.8	8.6	210.0
2004	37.4	60.9	30.1	27.8	21.0	8.5	182.0
2005	37.6	52.3	33.5	15.0	12.0	7.4	182.0

Source: UN TRAINS

These statistics point to a significant liberalisation effort, especially in manufacturing. Yet, it has to be remembered that at the beginning of reforms India's tariffs were amongst the highest in the world and that the current trade-weighted average tariffs of close to 52% in agriculture and 12% in manufacturing still imply a significant wedge between domestic and world prices, and act as an indirect tax on exports through imports. This puts Indian producers that rely on imported inputs at a competitive disadvantage (capital and intermediate goods constitute the bulk of India's imports), and holds inefficient producers in the domestic market. The lowered but still high tariff barriers certainly do not improve the situation of low growth in the industrial sector (Figure 11) which is one of the factors impeding reallocation of labour force from the agricultural sector.[17]

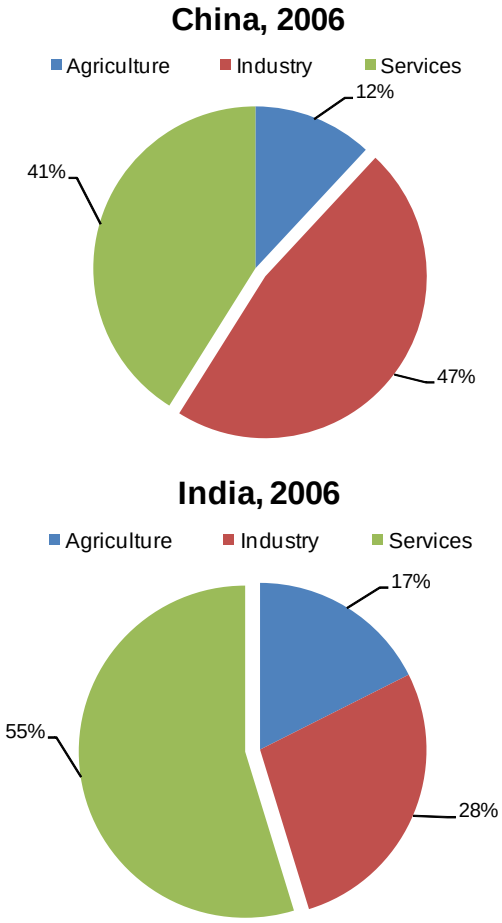
Figure 11: Percentage change in sectoral value added, 1991-2006, % of GDP



Source: WDI

[17] Employment in the agricultural sector persists despite its decreasing contribution to India's GDP.

Composition of value added



Source: WDI

Statistics presented in Tables 14 and 15 are even more revealing and show that the overwhelming majority (between 72 and 100%) of India's imports are not imported for domestic consumption but, rather, are used as intermediate inputs by the domestic manufacturing and services sectors. Table 14 presents the 10 top India's imports and shows that over 60% of India's imports on average face applied tariffs higher than 10% and bound tariffs of around 30%. Within a number of these product categories the maximum tariffs are as high as 100% and there are a number of national and international tariff peaks.[18]

[18] Taking the example of imports of machinery and equipment, the simple average tariff of almost 15% is entirely a production cost increasing measure—99% of imports machinery and equipment imports are used as intermediate inputs in production. Another example is 10% tariff on imports of crude oil—the biggest India's import (26% of the total). 100% of these imports are an intermediate input into the production of the petroleum products a part of which are successfully exported (9% in 2003). Other similar examples include inputs into the production of the chemical, rubber and plastic products and services sectors such as construction, transport and electricity generation. All in all, in an alarming majority of cases, moderate to high tariff hurt mostly domestic firms that rely on imported inputs.

Table 12: Top 10 India's imports

Product name	Value of imports	%of total imports	Simple average		Weighted average		Standard deviation	Maximum	Domestic peaks	International peaks
			Applied	Bound	Applied	Bound				
OIL-Oil	39101473	26.36	10		10		0	10	0	0
OME-Machinery and equipment	16895653	11.39	14.57	31.19	13.77	27.07	2.46	15	0	0
CRP- Chemical, rubber, plastic	15427099	10.4	15.38	42.72	14.43	37.59	4.62	100	4	127
NFM-Metals n.e.c.	14129823	9.53	14.68	39.39	15	39.65	1.47	15	0	0
ELE-Electronic equipment	11071414	7.46	7.55	9.86	2	0.91	7.47	15	0	0
OMN-Minerals n.e.c	8650334	5.83	12.04	36.28	12.91	38.86	4.39	15	0	0
OTN-Transport equipment n.e.c	8130431	5.48	20.21	29.96	7.71	8.45	30.05	100	20	20
P_C-Petroleum,coal products	7101582	4.79	13.61	25	13.9	25	1.64	15	0	0
I_S-Ferrous metals	6150379	4.15	18.9	39.59	19.45	39.94	2.08	20	0	511
COA-Coal	3380848	2.28	21.67	31.25	15	25	12.57	55	0	1

Source: UN TRAINS

Table 13: Disposition of top 10 India's imports

Product Name	Disposition of imported goods (%)		Main importing sector	% of imports	Disposition of output of main importing sector	
	Production	*Consumption*			*Domestic*	*Exports*
OIL-Oil	100	0	P_C-Petroleum, coal products	100	94	6
OME-Machinery and equipment	99	1	CDGS-investment in capital goods	42	100	0
CRP-Chemical, rubber, plastic	90	10	CRP-Chemical, rubber, plastic	56	87	13
NFM-Metals n.e.c.	100	0	OME-Machinery and equipment	30	89	11
ELE-Electronic equipment	86	14	CDGS-investment in capital goods	80	100	0
OMN-Minerals n.e.c	100	0	CNS-constructio	66	100	0
OTN-Transport equipment n.e.c	96	4	CDGS-investment in capital goods	73	100	0
P_C-Petroleum,coal products	72	28	OTP-transport n.e.c.	41	96	3
I_S-Ferrous metals	100	0	I_S-Ferrous metals	48	93	7
COA-Coal	88	12	ELY-electricity	68	100	0

Source: Authors' calculations based on GTAP and UN TRAINS databases.

In an effort to offset the high taxation of intermediate products and barriers to services trade, India has opted to cultivate an extremely complex system of duty exemption schemes, special investment and establishment rules and special economic zones (SEZs) that provide incentives particularly to exporting firms. There are more than a hundred duty exemption acts in place covering all types of activities from restaurants to agriculture, handlooms, leather and footwear or gems and jewellery. The majority of special initiatives involve some type of import duty exemption, in general between 2.5% and 5% of the FOB value of exports. For sectors dominated by very small players, specific instruments are in place to channel duty-free imports through trade associations. Other schemes such as the export promotion of capital goods scheme (EPCG) promises a 5% duty for imports of capital goods subject to an export obligation equivalent to 8 times the duty saved over a period of 8 years. Agri-export

zones grant duty-free imports of capital goods. In the last few years, each financial bill has added to the number of special focus initiatives and other promotional measures undermining parallel efforts to simplify export procedures such as efforts to launch an automated electronic environment for all exports.

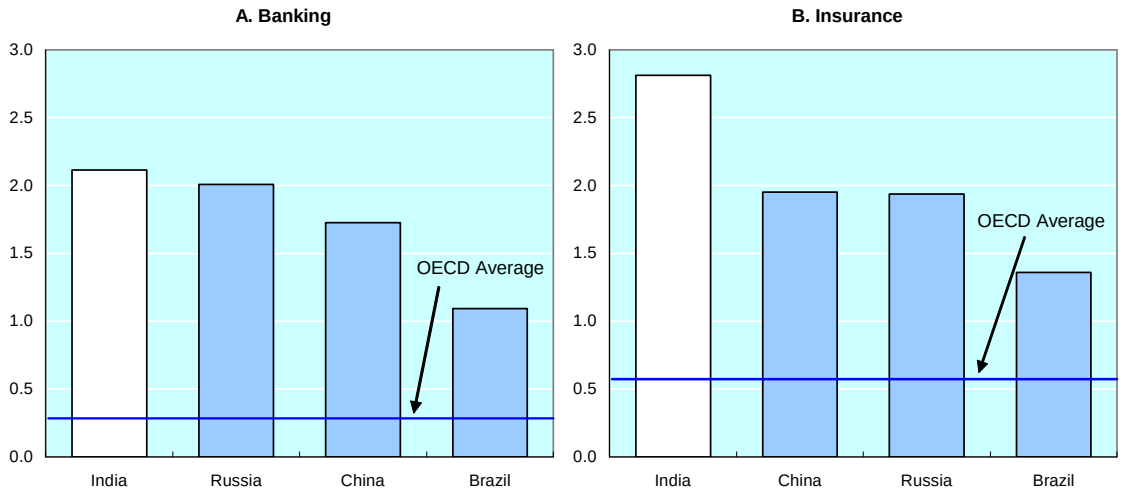
There are currently no signs that the system will be simplified in the near future but it appears that the Indian government is planning to alleviate the burden on domestic industry. Indeed, in 2006 the Trade Minister Kamal Nath announced two new schemes *Focus Products* and *Focus Markets* aimed at providing a thrust to employment generation, particularly in semi-urban and rural areas. The objective of the *Focus Products* scheme is to promote exports of labour intensive industrial products by allowing a duty credit facility at 2.5% of the FOB value of exports on fifty percent of the export turnover of notified products such as value added fish and leather products, stationery items, fireworks, sport goods and handloom, and handicraft items. The *Focus Markets* scheme aims at promoting exports to specified markets and allows duty credit facility at 2.5% of the FOB value of exports of all products to the notified countries.

Various reports dealing with India's services sectors highlight particular problems related to market access in financial, telecommunication and distribution services. The OECD (2007) assessed barriers in banking, insurance, telecom (fixed and mobile), and distribution service and liberalisation effects in many countries, including India.[19] The study employs various alternative weighting methods and improved econometric specifications that include barriers affecting each mode of services supply and additional sector-specific regulatory variables and draws conclusions that India is quite restrictive in banking, insurance, mobile telecom, and distribution, as compared to both OECD and selected emerging markets (Figures 12 through 14).[20] The TRIs are well above the OECD average and most of the selected emerging economies, including China. Moreover, most of these services sectors have for a long time been in the public domain and they suffer not only from high barriers to trade, but also from domestic constraints in terms of burdensome regulatory measures and state monopolies. These services consequently suffer from inefficiencies and low growth. The negative impact of restrictions on the performance of banking and distribution services is elaborated on in more detail in Kowalski and Dihel (2007).

[19] See OECD (2007b) "Modal Estimates of Services Barriers", OECD Trade Working Paper No. 51.

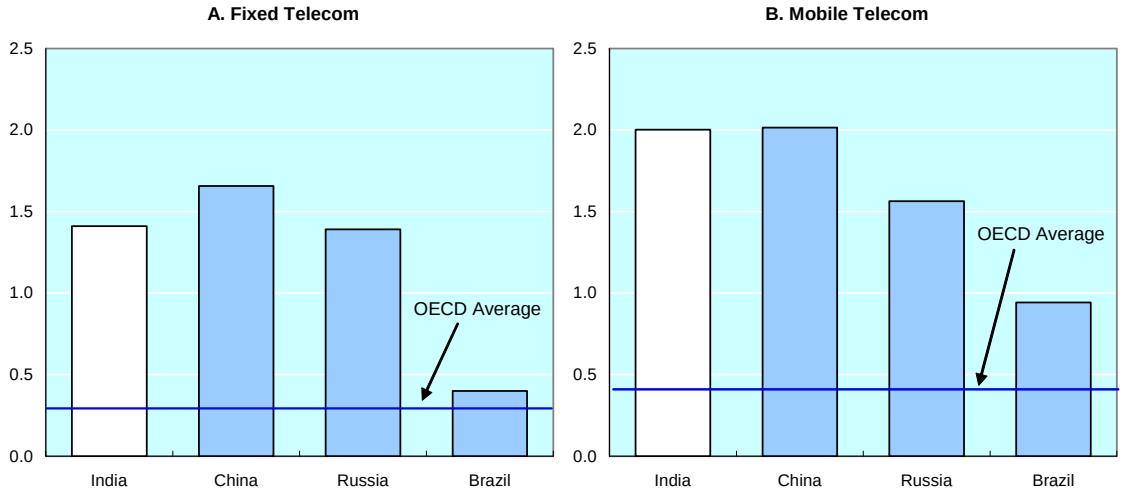
[20] The OECD (2007b) attempted to include a large number of measures that can impede trade in services via various modes of supply. It is important to note that, at this stage, the study considers a combination of formal and actual barriers. A country can have regulatory measures in place which restrict trade, but these may not be applied in practice. Moreover, even if restrictions are applied, their effect depends on how they are applied in practice. Given these caveats, the proposed lists of restrictions and the results should be treated with caution. Where possible, this analysis indicates how results may change if the practical application on regulatory measures is taken into account.

Figure 12: Banking and Insurance TRIs- India and selected emerging economies



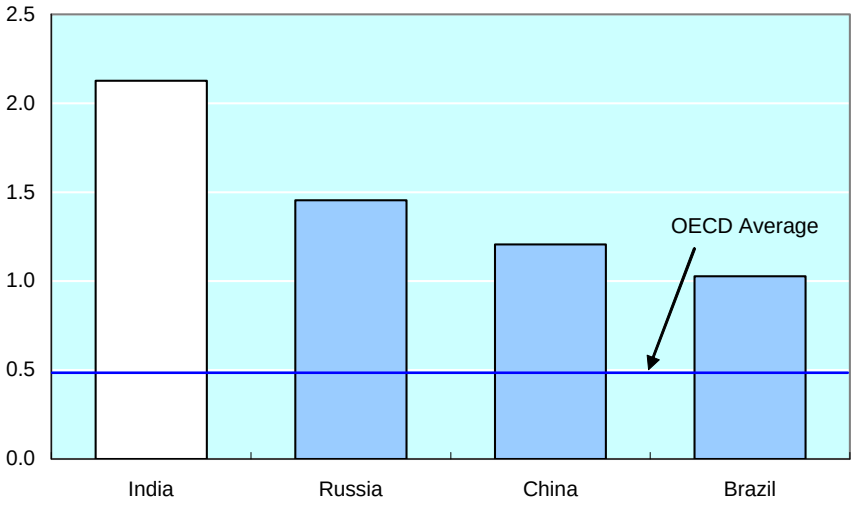
Source: Calculations based on the methodology described in OECD (2007b).

Figure 13: Telecom TRIs- India and selected emerging economies



Source: Calculations based on the methodology described in OECD (2007b).

Figure 14: Distribution TRIs- India and selected emerging countries



Source: Calculations based on the methodology described in OECD (2007b).

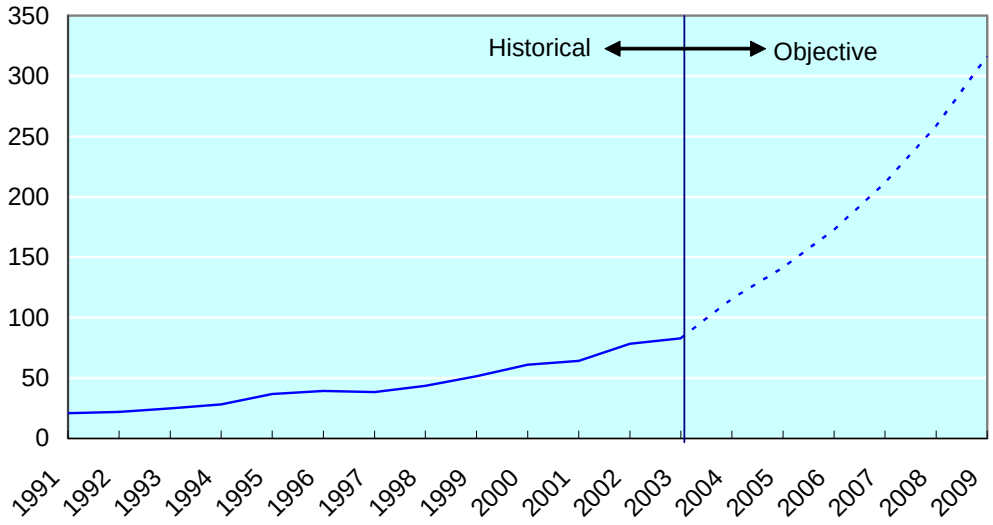
The goal of the *New Foreign Trade Policy* is to double India's percentage share of global merchandise trade within the next five years. In 2004 when the government announced the new policy this was interpreted as achieving a 20% growth per annum in exports and increasing India's share in world trade from 0.8% to 1.5% by 2009. As far as means are concerned, the New Foreign Trade Policy[21] appears to be based on: continuing liberalisation efforts by reducing tariffs, unshackling controls, simplifying procedures and bringing down transaction costs; extensive use of duty rebates and exemptions to neutralize the incidence of all levies and duties on inputs used in export products; establishing export processing zones, so called special economic zones, to boost exports and harness FDI into infrastructure building

The objective set for the *New Foreign Trade Policy* must be seen as quite ambitious. Figure 15 traces the historical trend in exports growth and the projected, much higher, growth that would be implied by the *New Foreign Trade Policy*. Whether the means the government envisages will be sufficient to achieve such an ambitious outcome is unclear. In particular it is unsure whether export-related duty exemptions and preferential treatment of economic agents operating in the SEZs are the best way to promote economic efficiency and growth. While strong exports are the sign of an economy's competitiveness and the source of foreign currency earnings, exporting firms do not operate in a vacuum and discriminatory exports-oriented policies may in some circumstances produce more harm than good. At a very general macroeconomic level, maintaining moderately high import tariffs with a system of export-oriented duty exemptions can be called a system of "negative incentives"; costs of production are higher than in less protected transition countries except for those Indian producers which are already capable of exporting (Kowalski and Dihel, 2007). This is bound to have a negative impact on the Indian economy in general and perhaps even on exports since this activity is also carried out within an inefficient national economy. Indeed, as much as 75% of the capital in the SEZs originates from domestic sources. Is it

[21] Foreign Trade Policy 2004-2009, Directorate General of Foreign Trade, Ministry of Commerce and Industry, Government of India, 2004.

plausible to expect increased investment in exporting activity with policies that do not encourage the efficient domestic production?

Figure 15: Doubling India's share of world trade: the size of the challenge
Exports in billions USD



Source: authors' projection based on assumption of 6.5% world trade and WDI data on Indian exports.

It is also uncertain that the Indian SEZs can develop and generate economic benefits to the extent those in China do. This is because they tend to be sub-optimally sized, which prevents realisation of scale economies, and are usually located in the vicinity of already large cities magnifying the already existing diseconomies of Indian agglomerations (Mitra, 2008). All these elements suggest that the net economic benefits of the current web of SEZs for India as a country are uncertain, notwithstanding the private sector or government support. More generally, SEZs are always a suboptimal policy from an economic point of view (Engman, 2007). They can merely provide an interim solution to countries with poor business environments where bridging deficiencies at a national level is temporarily impossible. This may indeed be the case in India—a large, low income country with enormous population, poor infrastructure and fiscal problems—but it would not be rational to treat this as a sustainable long-term solution that can substitute for reforms aimed at making business easier for everyone. Even as a temporary solution, the benefits are not guaranteed especially if the rents associated with operating within SEZs create perverse economic incentives.

In this context the two main elements on India's *New Foreign Trade Policy* seem somewhat contradictory. On the one hand the across-the-board liberalisation efforts are to be continued. On the other hand duty exemptions and other privileges geared mainly towards export promotion are to be enhanced. In fact, if the first objective is realized, the second, at least when it comes to import duty exemptions, becomes redundant. It seems that across-the-board import duty reduction could have more beneficial economy-wide and export effects than selective duty exemptions in export sectors, especially because this is the only logical end point. We therefore argue that,

if SEZs are to stay as an interim policy in India, a proper cost-benefit analysis of the current SEZs system and across-the-board liberalisation is warranted to minimize any potential inefficiency.

In addition, a number of studies point out several other factors that impede the development of the tradable sectors in India as well as that of the economy as a whole (e.g. OECD, 2007a). One of the key hurdles to Indian productivity growth has been a lack of infrastructure support from the government. In 2005, infrastructure spending was US$28 billion in India (3.6% of GDP), compared with US$201 billion in China (9.0% of GDP). It is estimated that poor and poorly used infrastructure cuts India's growth rate by about 1 to 1.5 percentage points a year[22] and without change the desired double-digit growth seems highly unlikely.

India-based enterprises still face significant challenges in terms of the ease of doing business despite the dismantling of the Licence Raj[23] in 1990. For example, the cost for a start-up is much greater than in China. Despite significant reforms in the area of licensing systems, much more time to obtain the necessary licenses is needed in India than in China or other countries in South Asia. Furthermore, the time required for exporting and importing and its cost to export and import remain much higher than in China. The enforcement of contracts remains inefficient and extremely difficult. Last but not least, labour regulations are inflexible, as reflected by the rigidity of the employment index that is much higher than in China or other South Asian economies. Finally, somewhat similarly to China, India is confronted with skill problems due to low educational standards though, as opposed to China, it will have increasing working population for another generation (e.g. Lehman Brothers, 2007).

Table 14: Doing Business in China and India – selected indicators, 2006

		India	China	South Asia	OECD
Overall Indicator	Rank	134	93		
Starting a Business	Cost (% GNI per capita)	73.7	9.3	46.6	5.3
Dealing with Licenses	Procedures (number)	29.0	20.0	16.1	14.0
	Time (days)	367.0	270.0	226.6	149.5
	Cost (% of income per capita)	84.0	606.0	375.7	72.0
Trading Across Borders	Time for exports (days)	27.0	18.0	34.4	10.5
	Cost to exports (US$ per container)	864	335.0	1,236.0	811
	Time for import (days)	41.0	22.0	41.5	12.2
	Cost to imports (US$ per container)	1,244.0	375.0	1,494.9	882.6

[22] Analysis – India's politics block much-needed economic reform, Reuters 2006

[23] The term "Licence Permit Raj" refers to the elaborate licences, regulations and the accompanying red tape that were required to set up business in India between 1947 and 1990. The Licence Raj was accorded on a selective basis to selected companies.

		India	China	South Asia	OECD
Registering Property	Procedures (number)	6.0	3.0	5.8	4.7
	Time (days)	62.0	32.0	118.6	31.8
	Cost (% of property value)	7.8	3.1	5.3	4.3
Enforcing a contract	Procedures (number)	56.0	31.0	38.7	22.2
	Time (days)	1,420.0	292.0	968.9	351.2
	Cost (% of debt)	35.7	26.8	26.4	11.2
Employing workers	Difficulty of hiring index	33.0	11.0	41.8	27.0
	Difficulty of firing index	70.0	40.0	37.5	27.4
	Rigidity of employment index	41.0	24.0	34.8	33.3
	Non-wage labour cost (% of salary)	16.8	44.0	5.8	21.4
Closing a Business	Time (years)	10.0	2.4	3.6	1.4
	Cost (% of estate)	9.0	22.0	6.3	7.1
	Recovery rate (cents on the dollar)	13.0	31.5	19.5	74.0

Source: The World Bank (2007) Doing Business Comparing Regulations– http://www.doingbusiness.org/

Overall, the remaining protection in both goods and services sectors is still much higher in India as compared to China or other BRICs. First, this means that intermediate inputs and capital goods—the bulk of India's imports—remain expensive. Second, the remaining trade barriers and the complexity of the system combine with the high levels of domestic red tape restricting new entry and competition to keep India's competitiveness at low levels, particularly in agriculture and manufacturing sectors. As a result, pro-competitive effects in the tradable sector—the main driver of growth in most transition countries—are not as common as they could be.

Conclusion

The comparison of the key features of trade integration processes and the economic outcomes of China and India reveals that while much has already been achieved in both these economies in terms of opening up, the Chinese reforms, especially with respect to manufacturing trade, have gone further and that this is likely one of the key determinants of better economic performance of China. The evidence gathered suggests also that international trade will likely remain a crucial factor that can allow China and India to continue, or perhaps even speed up, the growth enjoyed in the last decades.

Of the two countries, China is probably a better example to be followed as far as trade policy is concerned but China's integration process so far remains characterized by a

certain duality. On the one hand the opening up of trade and FDI in manufactured goods has spurred the emergence of a largely private and dynamically growing sector. On the other hand the high level of public ownership and important regulatory barriers continue to dominate the services sectors. The full implementation of China's GATS commitments would likely imply significant reforms and liberalisation measures with important gains for China and many of its trading partners.

India has gone a long way in reducing its tariffs on non-agricultural products as well as certain non-tariff barriers but moderate protection still persists which likely adds to the costs of intermediate inputs and, thus, to the hurdles faced by the Indian manufacturing sector. India has revealed a comparative advantage in certain segments of the services sector but its services trade policy is still very restrictive, even as compared to China. The extent of liberalisation achieved so far and the outcomes it brought about suggest that the remaining goods and services trade barriers are just one item on the list of reforms that India needs to tackle in order to promote trade-led expansion of labour-intensive activities. Other important priorities analysed elsewhere (e.g. OECD, 2007a and Dihel and Kowalski, 2008) include, for example: reforming small scale industry policies that prevent realisation of economies of scale and productivity increases in the sector; relaxing of labour market rigidities that hinder the inter-industry and interstate labour mobility and underpin misallocation of resources across industries and states; tackling infrastructure bottlenecks; reducing regulatory differences across states.

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ICRIER's founding Chairman was Dr. K.B. Lall who led the organization since its inception from 1981 till 1992 when he handed over the Chairmanship to Mr. R.N. Malhotra (1992-1996). He was followed by Dr. I.G. Patel who remained Chairman from 1997 to 2005 until his demise in July 2005. ICRIER's current Chairperson is Dr. Isher Judge Ahluwalia.

Amongst ICRIER's founding members are: Dr. Manmohan Singh, Dr. C. Rangarajan, Dr. M.S. Swaminathan, Dr. Jagdish Bhagwati, Mr. Montek Singh Ahluwalia.

ICRIER conducts thematic research in the following six thrust areas:

- Trade, Openness, Restructuring and Competitiveness
- WTO-Related Issues
- Regional and Bilateral Issues
- Financial Liberalization and Integration
- Macro-economic Management in an Open Economy
- Strategic Aspects of India's External Relations

In addition, ICRIER holds public policy workshops to bring together policy makers, academicians, Union Cabinet Ministers, senior industry representatives, Members of Parliament and media persons to try and forge a consensus on issues of major policy interest. In the effort to better understand global developments and experiences of other economies which have bearing on India's policies and performance, ICRIER invites distinguished scholars and policy makers from around the world to deliver public lectures on economic themes of interest to contemporary India.

ICRIER's highly qualified core team of researchers includes several PhDs from reputed Indian and foreign universities. At present the team has 20 Senior Economists, 24 Research Associates/Assistants and 29 External Consultants. The team is led by Dr. Rajiv Kumar, D.Phil in Economics from Oxford University and PhD from Lucknow University.